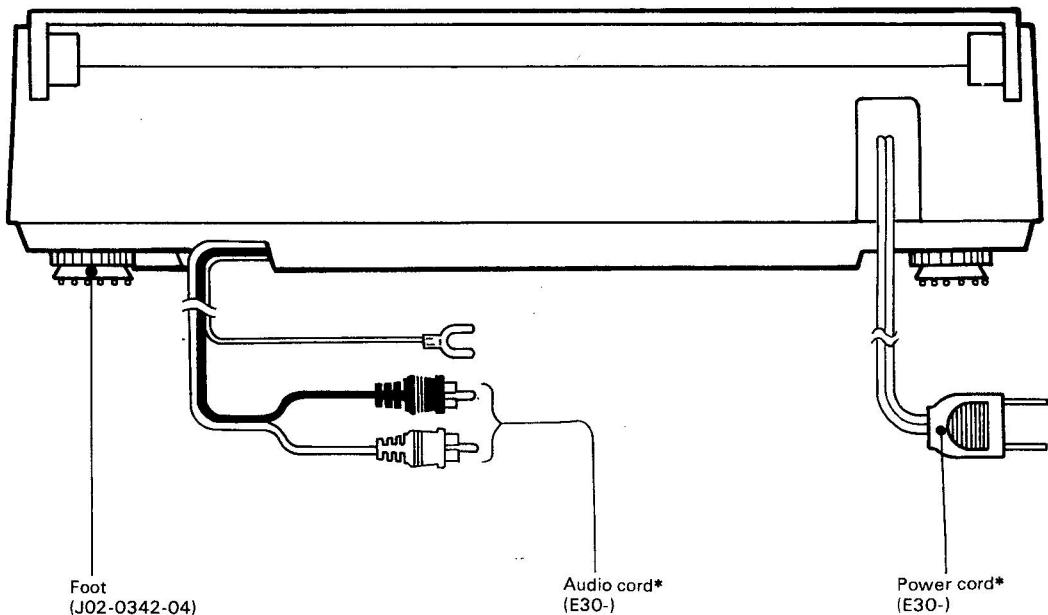
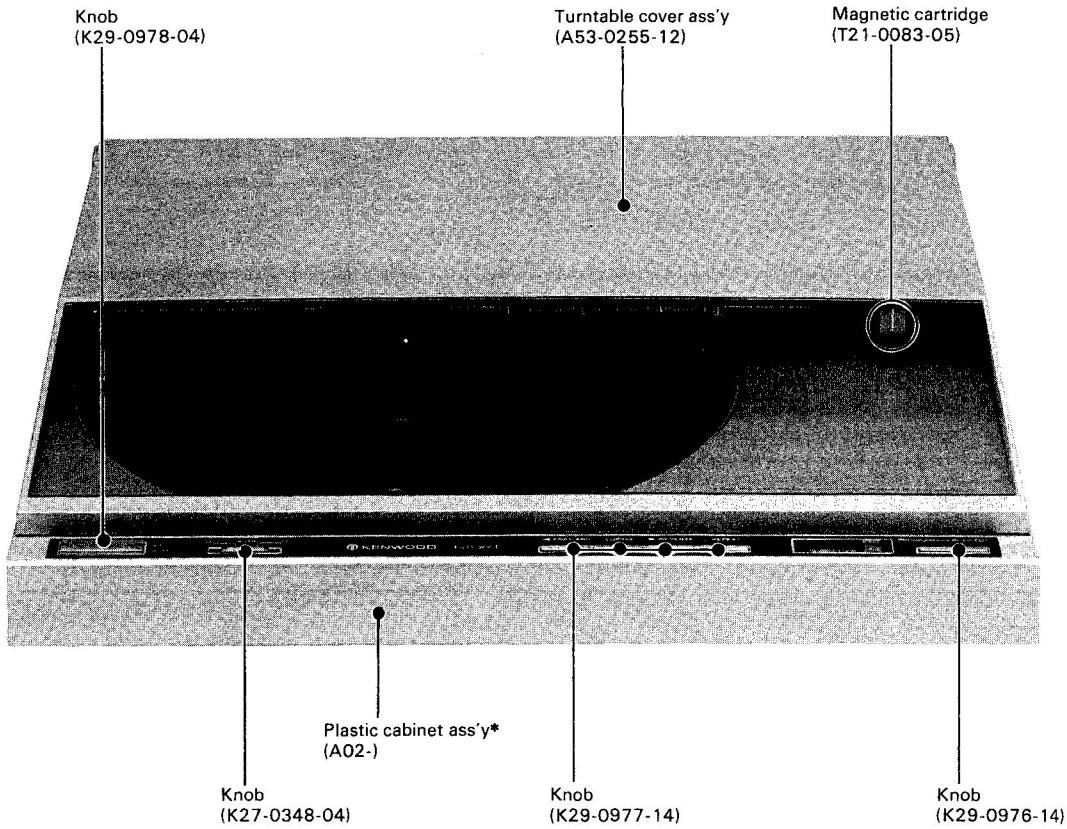


SERVICE MANUAL

 **KENWOOD**®

KD-9X/9XG

QUARTZ PLL DIRECT DRIVE FULL-AUTOMATIC TURNTABLE

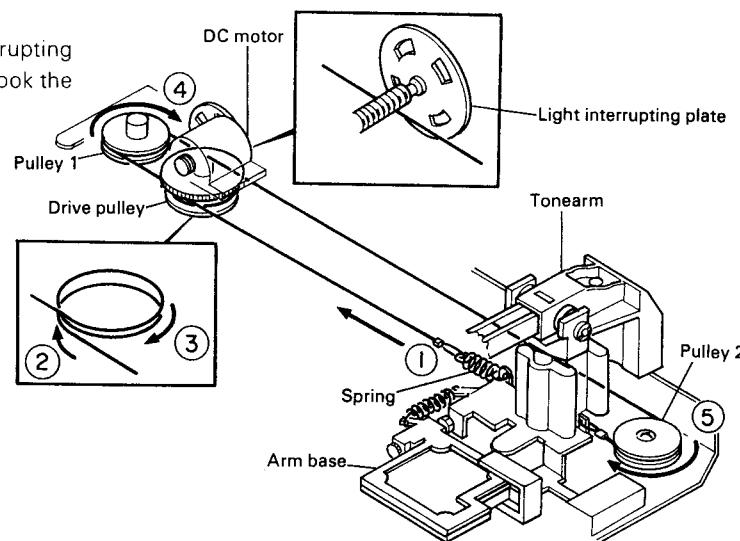


*Refer to parts list on page 18.

CORD STRINGING/DISASSEMBLY FOR REPAIR

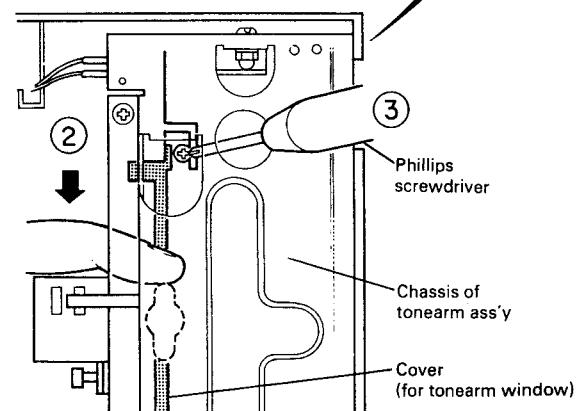
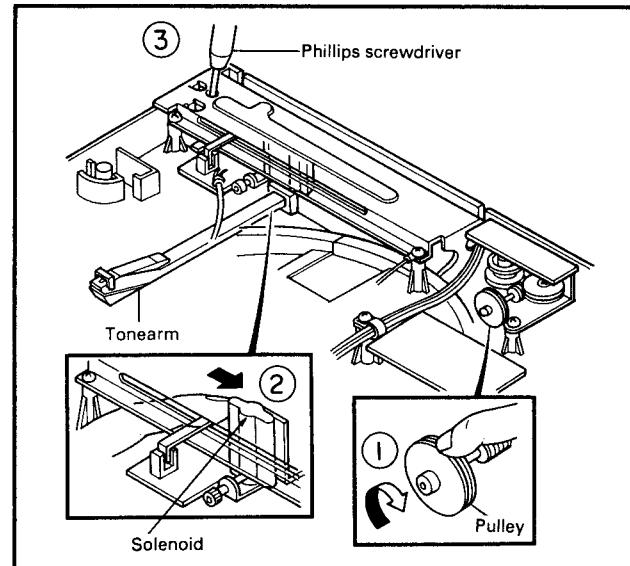
Cord Stringing

1. Hook the loop of the cord to the spring and hook the spring to arm base. Stretch the cord to the direction of the arrow ①.
2. Wind the cord 2 turns around drive pulley (② , ③) and hook the cord around pulley 1 (④).
3. Stretch the cord under the axis of the light-interrupting plate and hook the cord around pulley 2 (⑤). Hook the loop to the arm base.



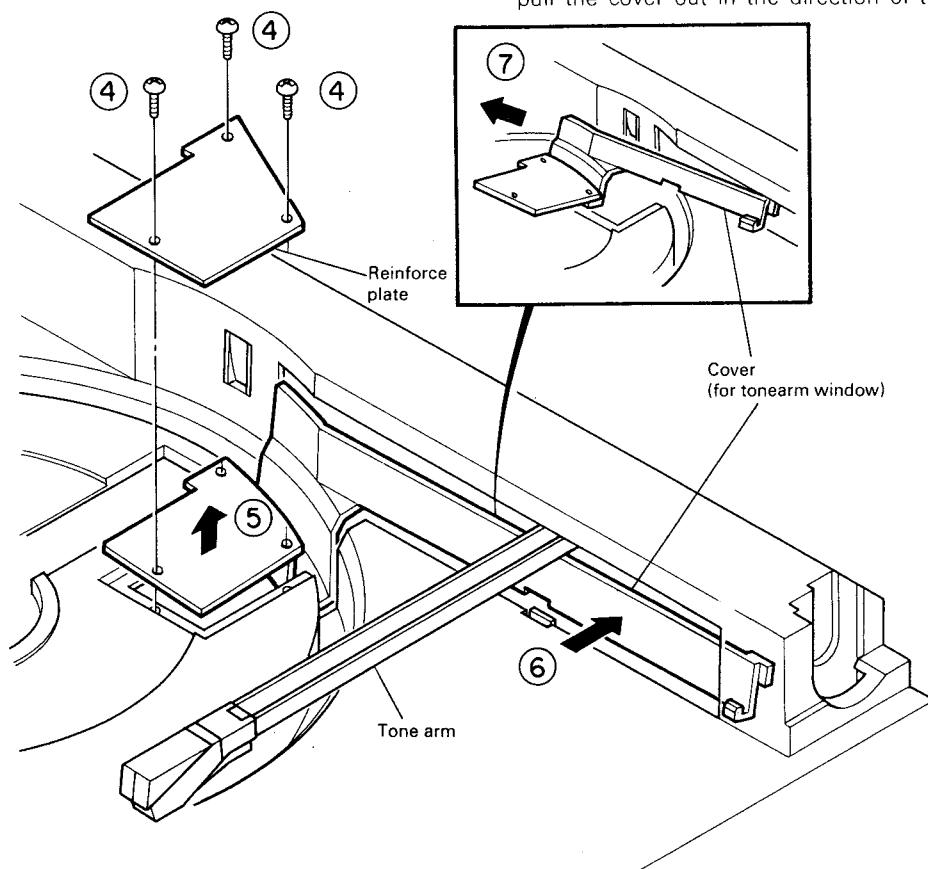
Removal of Tonearm ass'y

1. Remove turntable sheet and turntable platter and turn the cabinet upside down.
2. Turn the pulley, connected by the belt with the DC motor, with a finger (①) and move the tonearm from the arm rest position.
3. Push the solenoid section of the tonearm ass'y and move the tonearm farther from the arm rest (②).
4. Stick in a Phillips screwdriver through the hole on the chassis of the tonearm ass'y and remove the screw which is pressing the cover against the cabinet (③).



DISASSEMBLY FOR REPAIR

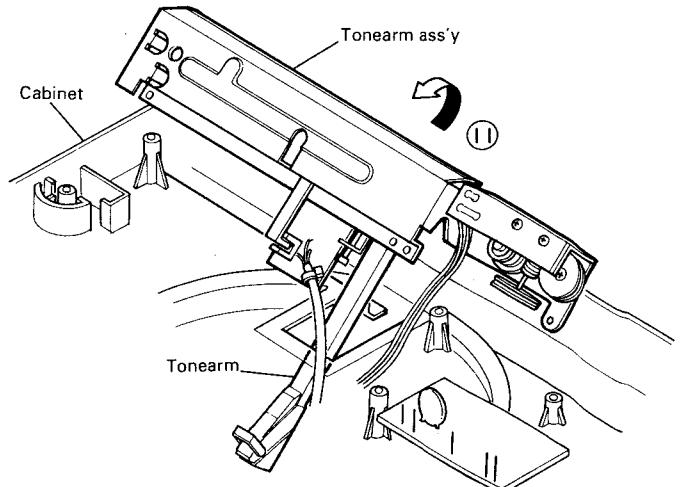
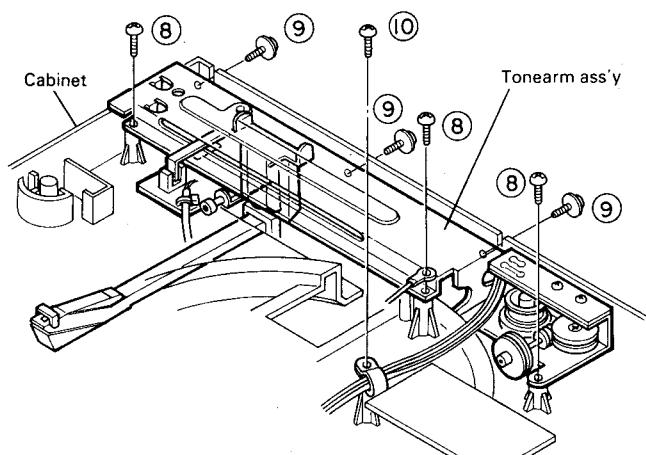
5. Remove 3 screws from the reinforce plate for the cover for tonearm window (④).



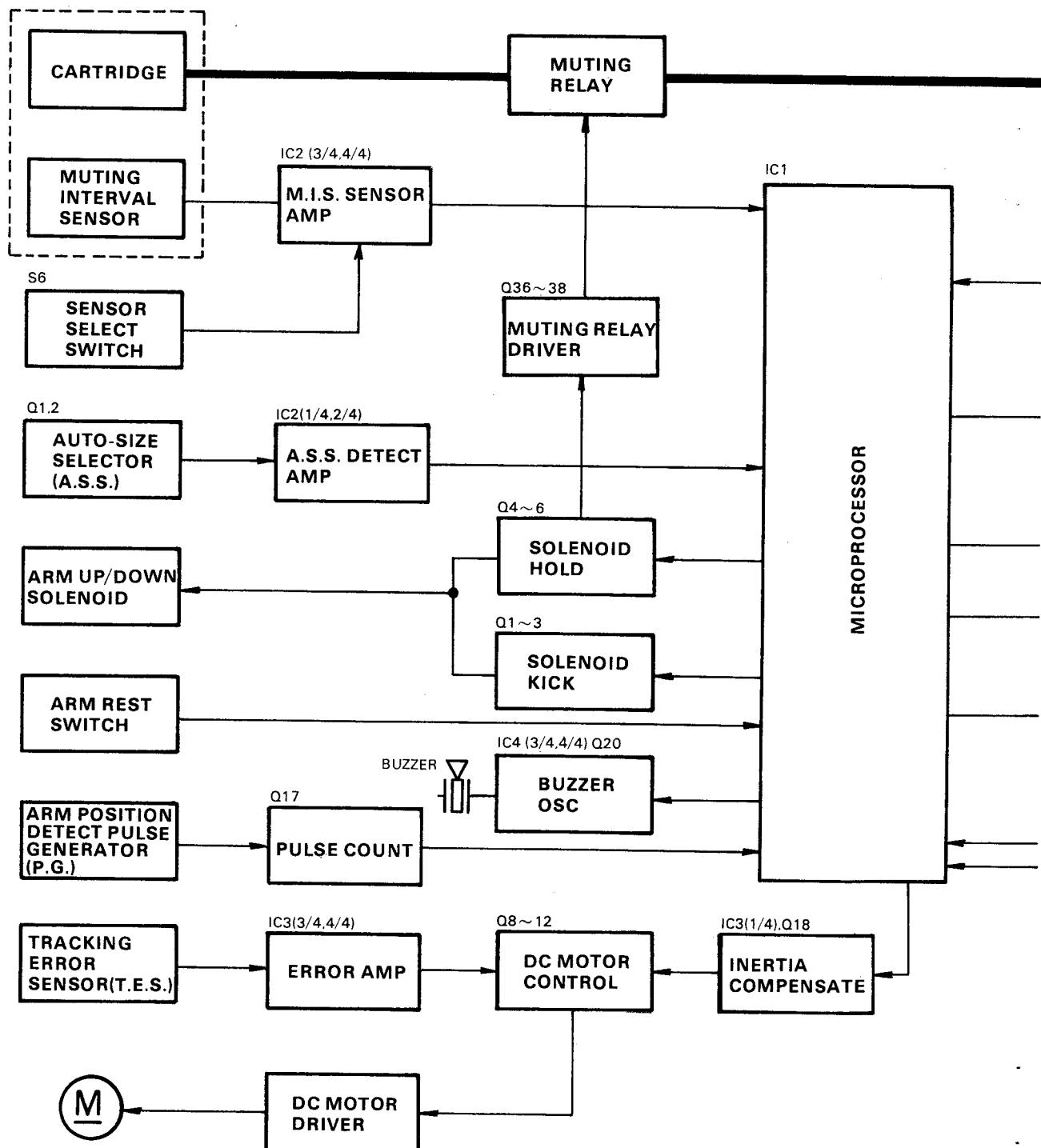
7. Remove 3 screws retaining the tonearm ass'y (⑧), 3 screws at the rear side of the cabinet (⑨) and a screw retaining the cord clamer (⑩).

8. Push the solenoid section of the tonearm ass'y and move the tonearm so that the tonearm can be seen through the hole shown in the figure below. Rotate the tonearm ass'y as shown by the arrow ⑪. When rotating, be careful the tonearm and the cartridge does not touch the cabinet.

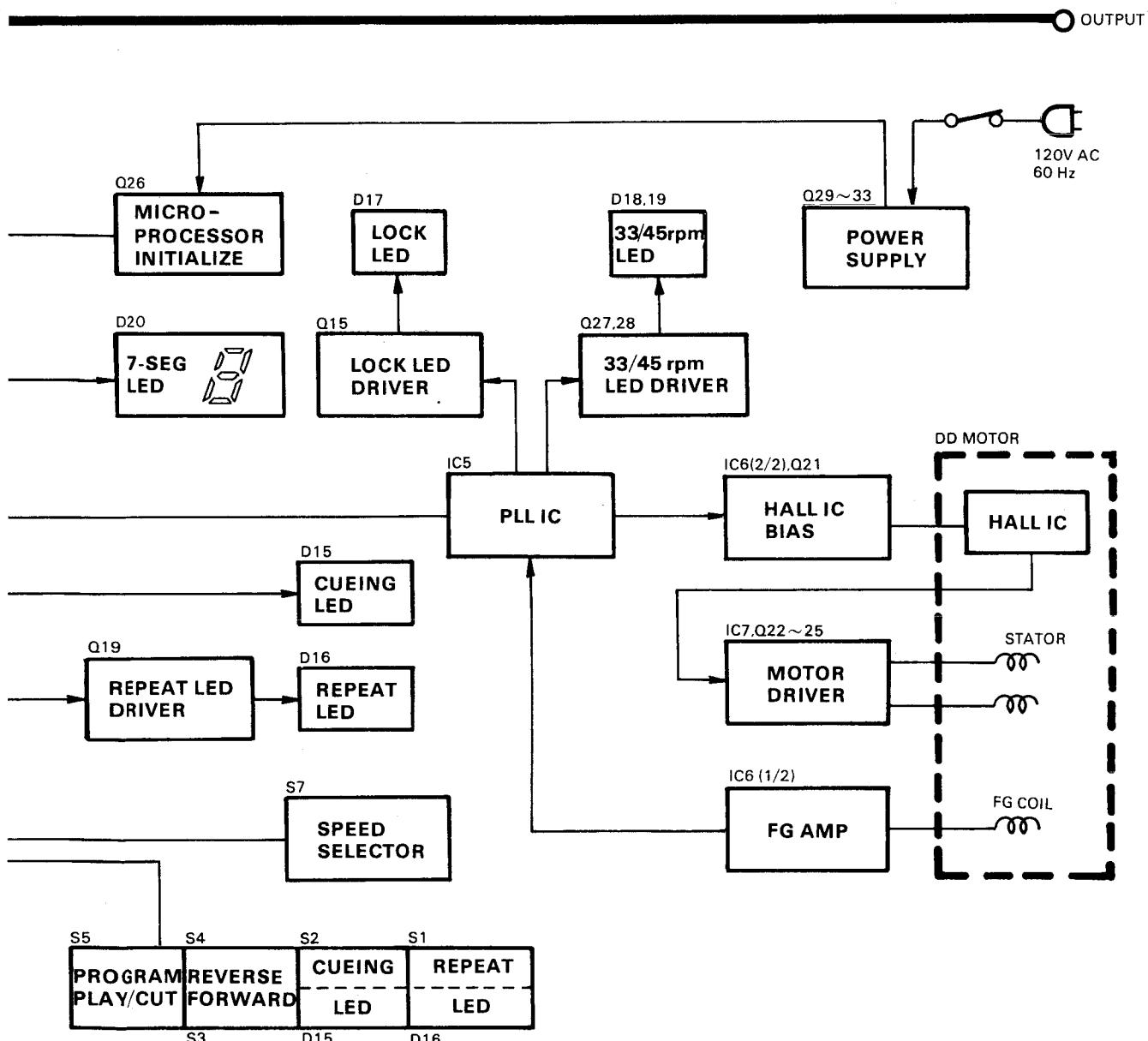
Note: When the tonearm ass'y is once removed or replaced, adjustment must be done.



BLOCK DIAGRAM



BLOCK DIAGRAM



CIRCUIT DESCRIPTION

NEW PARTS DESCRIPTION

1. Mechanism Control IC (LM6405-042)

In the KD-9X the movement of the tonearm is controlled by a microprocessor. This microprocessor is an N-channel E/D MOS 4-bit microprocessor LSI in a 42-pin dual-in-line package. The block diagram of the microprocessor is shown in fig. 1.

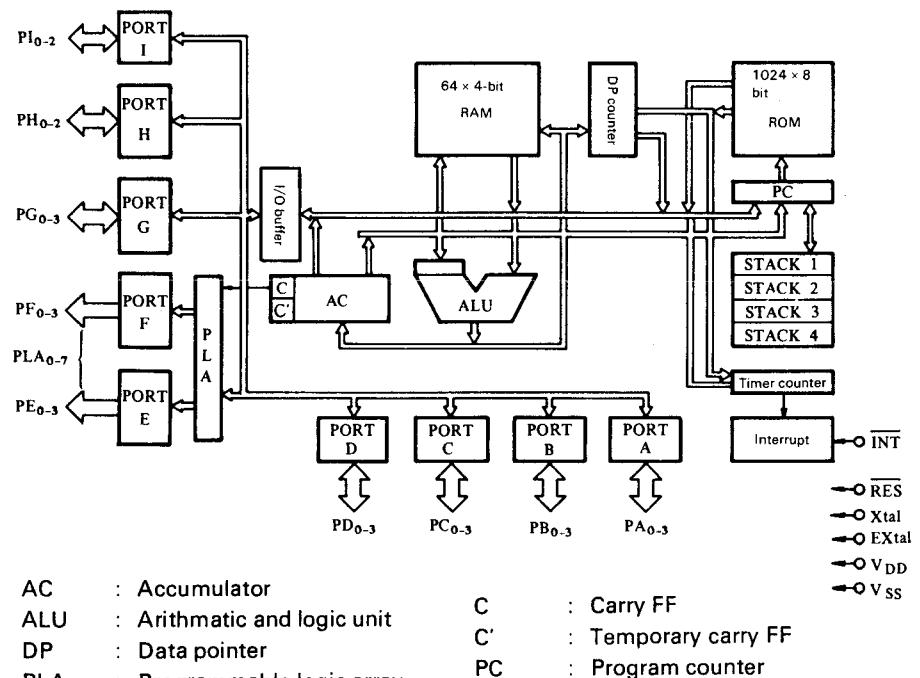


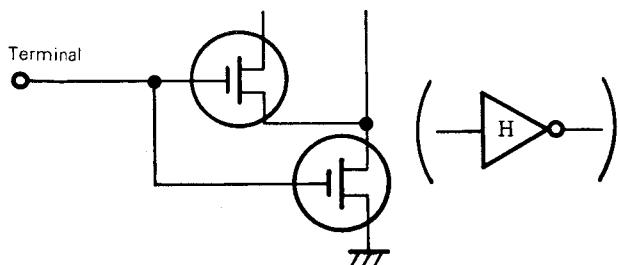
Fig. 1 Block diagram of microprocessor (LM-6405-042)

Description of Pins

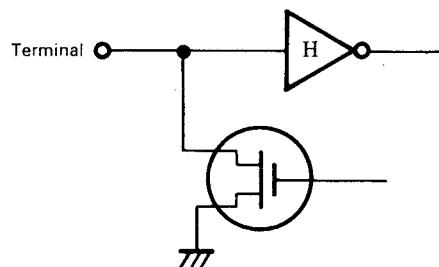
The input/output terminals are determined by the usage of the microprocessor, and each input/output circuits will be selected for them. In this microprocessor, the following input or output circuits are selected.

I/O \ Port	A	B	C	D	E	F	G	H
Input only	H	H						
Output only					OD	OD	PU	PU
Input and output			H·OD	H·OD				

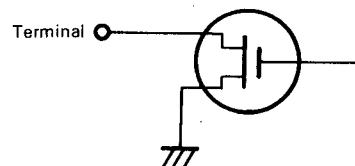
- High threshold input gate (H) input only



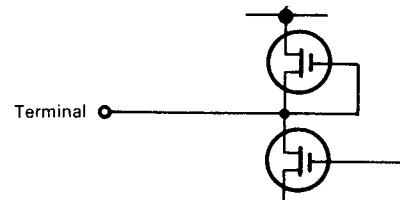
- High threshold input/open drain output (H·OD) input and output



- Open drain output (OD) output only



- Pulled-up output (PU) output only



CIRCUIT DESCRIPTION

Terminal names and their uses are shown in the following table.

INPUT TERMINALS

Terminal names	Pin No.	Usage
A0	33	Auto-size-selector (A.S.S.) Q1 signal input
A1	34	Auto-size-selector (A.S.S.) Q2 signal input
A2	35	Music-interval-sensor signal input
A3	36	Pulse generator signal input
B0	37	PROGRAM•PLAY/CUT switch input
B1	38	REPEAT switch input
B2	39	CUEING switch input
B3	40	33•AUTO•45 switch input
C0	2	FORWARD switch input
C1	3	REVERSE switch input
C2	4	Turntable lock signal input
C3	5	Tonearm rest position detect signal input

Note:

Turntable lock signal is "H" when the turntable is quartz locked and "L" for others.

OUTPUT TERMINALS

Terminal names	Pin No.	Usage
D0	8	Solenoid drive signal 1 output
D1	9	Solenoid drive signal 2 output
D2	10	Not used
D3	11	Not used
E0	12	7-segment display (a) output
E1	13	7-segment display (b) output
E2	14	7-segment display (c) output
E3	15	7-segment display (d) output
F0	16	7-segment display (e) output
F1	17	7-segment display (f) output
F2	18	7-segment display (g) output
F3	19	CUEING LED display output
G0	22	Piezoelectric buzzer signal output
G1	23	Not used
G2	24	REPEAT LED display output
G3	25	Not used
H0	26	FORWARD drive signal output
H1	27	REVERSE drive signal output
H2	28	Turntable ON/OFF signal output
H3	29	Turntable speed signal output

Note:

FORWARD drive signal is a signal to drive the tonearm toward the spindle when FORWARD key is pressed. REVERSE drive signal is a signal to drive the tonearm away from the spindle when REVERSE key is pressed.

OTHER TERMINALS

Terminal names	Pin No.	Usage
Xtal	1	For connecting resonator for internal oscillation
INT	6	Interrupt request signal input
RES	7	Reset signal input
TEST	20	For testing LSI (normally connected to 0V)
Vss	21	GND terminal for power supply
Vdd	41	Power supply (+5V)
EXTal	42	External clock input (When using internal clock, connect the resonator between this pin and pin 1.)

Note:

Immediately after the power is turned on, "L" signal is applied to RES terminal. This initializes all output ports to "H". Then the program starts and appropriate signals are output at each ports.

2. Music-interval Detection Sensor

In the KD-9X, photo sensor (photo interrupter) is concealed in the cartridge. For this reason, when the sensor is found defective, cartridge must be changed.

When the stylus tip is 5 mm above the record disk surface, the point where the sensor detects is 0.5 mm closer to the spindle from the point right below the stylus tip.

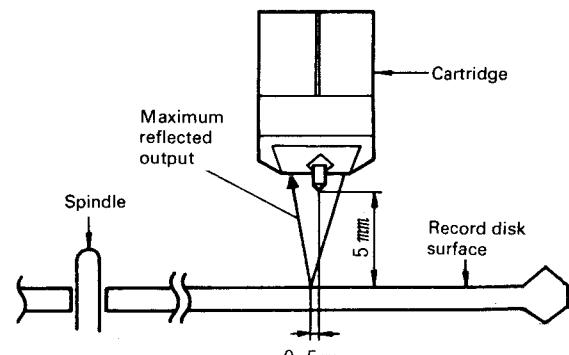
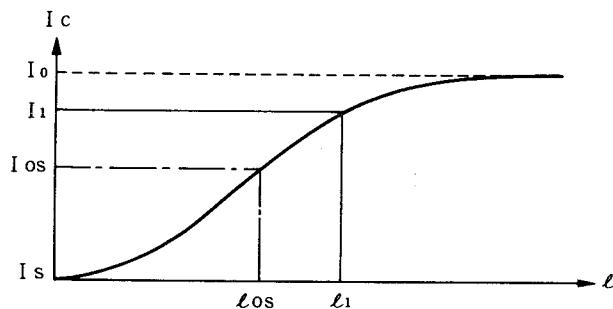


Fig. 2 Cartridge viewed from the front

CIRCUIT DESCRIPTION

3. Tracking Error Detection Sensor (ON1108)

Photo interrupter ON1108 is used for detecting the tracking error. A shutter connected to the tonearm is placed between the LED and the photo transistor. The tracking error is detected by the relation between the position of the shutter and the collector current of the photo transistor.

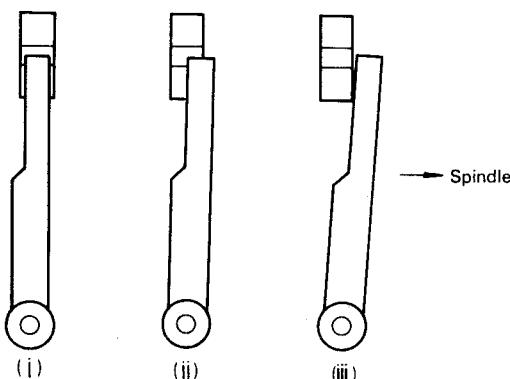
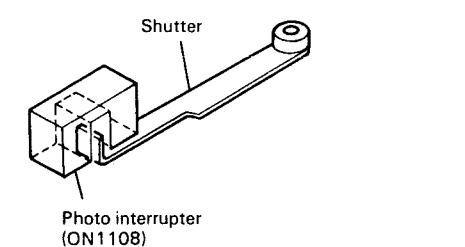
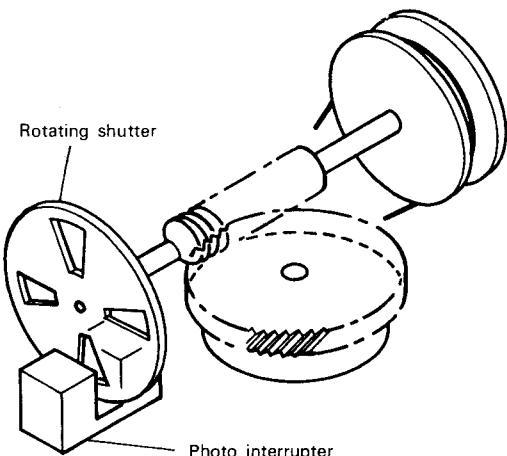


- l : Position of the shutter
- I_c : Collector current of the photo transistor
- I_o : Collector current of the photo transistor when the shutter is fully open
- I_s : Collector current of the photo transistor when the shutter is fully closed
- I_{os} : Collector current of the photo transistor when offset adjustment is made

Fig. 3 Relation between the position of the shutter and the collector current of the photo transistor

The shutter moves out from the slit of the photo interruptor, as the tonearm moves toward the spindle. That means the shutter moves to the direction so that the light from the LED reaches to the photo transistor increases. The increased collector current is detected to move the arm base so that the tracking error becomes zero.

4. Pulse Generator Sensor for detecting Tonearm Position (ON1128)



- (i) When the shutter is fully closed ($I_c=I_s$)
- (ii) When the shutter is set at offset position ($I_c=I_{os}$)
- (iii) When the shutter is fully opened ($I_c=I_o$)

Fig. 4 Shutter viewed from the bottom

Photo interrupter ON1128 is used for detecting the position of the tonearm. A rotating shutter is placed between the LED and the photo transistor. This rotating shutter is connected to the DC motor so that it rotates when the motor moves. At the same time, by the cord attached to the arm base ass'y, the tonearm moves.

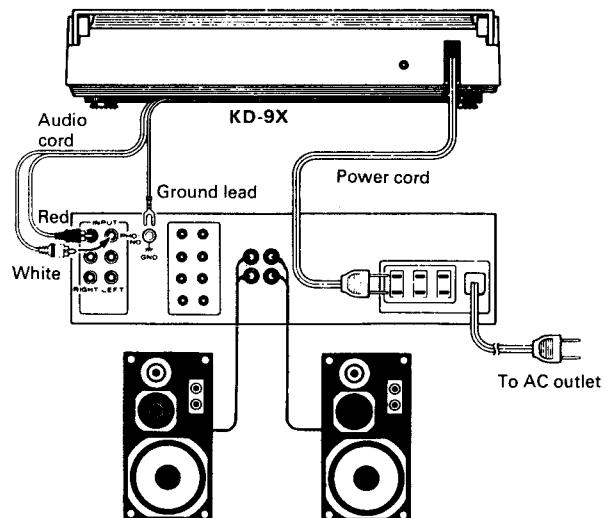
When the rotating shutter rotates, the photo transistor of the photo interrupter repeats ON/OFF. This ON/OFF action of the photo transistor is counted as a pulse to detect the AUTO-IN and RETURN position.

Set-up pulse count from the arm rest position is shown in the following.

AUTO-IN position	for 30 cm disk	405 pulses
	for 17 cm disk	736 pulses
RETURN position	for 30 cm disk	891 pulses
	for 17 cm disk	916 pulses

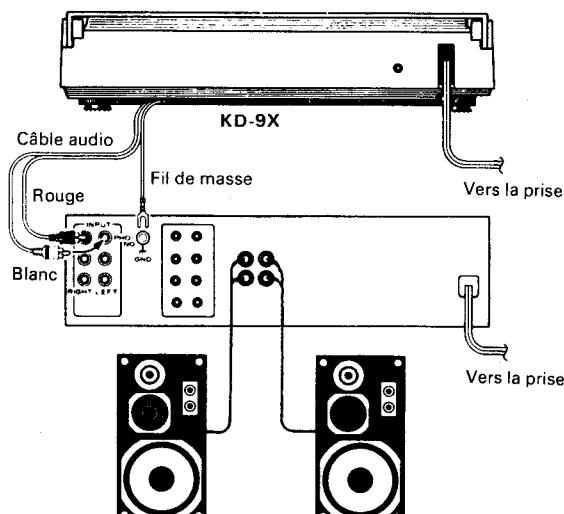
ADJUSTMENT

No.	ITEM	INPUT SETTING	OUTPUT SETTING	TURNTABLE SETTING	ALIGNMENT POINTS	ALIGN FOR	FIG.
1	OFFSET (1)	—	Disconnect PH1 and connect a DC voltmeter to pin 8 of IC3 (PHA3- ③)	Remove the tonearm from its rest and lower it.	VR3	—0.80V	(a)
2	OFFSET (2)	—	Connect a DC voltmeter to pin 10 of IC2 (PHA3- ①)	Raise and lower the tonearm several times, then leave it in the UP position.	Adjustment screw under the tonearm	—650 mV	(b)
3	DISTANCE BETWEEN THE STYLUS AND DISK SURFACE	Record	Connect PHA1	SIZE: 17 cm Tonearm: UP Auto-IN	Adjustment screw on the rear side of the tonearm	5 mm	(c)
4	SENSITIVITY OF THE SELECTION SENSOR (1)	Test record (T99-0216-05)	Connect a DC Voltmeter to pin 10 of IC2 (PH3- ①)	Lift the tonearm and move it to the center of the audio band using the FORWARD and REVERSE buttons.	VR1 VR2	Turn VR2 all the way to the right. Adjust VR1 so that the voltmeter reads 100 mV.	(d)
5	SENSITIVITY OF THE SELECTION SENSOR (2)	Test record (T99-0216-05)	Connect a DC voltmeter to pin 10 of IC2 (PHA3- ①)	Lift the tonearm and move it to the center of the unrecorded band using the FORWARD and REVERSE buttons.	VR2	150 mV	(e)
6	ACCURACY OF THE SELECTION SENSOR	Test record (T99-0216-05)	(A)	Specify a selection number with the PLAY/CUT key.	VR4	Turn VR4 all the way to the left, then turn it gradually to the right so that the tonearm is lowered onto the lead groove preceding the selection.	
7	AUTOMATIC LEAD-IN	Test record (W05-0036-00)	(A)	Specify selection number 1 with the PLAY/CUT key.	Adjustment screw of tone-arm ass'y.	24~28	(f)
8	SELECTION SENSOR	Test record (T99-0216-05)	Connect an oscilloscope to pin 4 of IC4.	Specify a selection number with the PLAY/CUT key.	VR5	400~500 ms	(g)



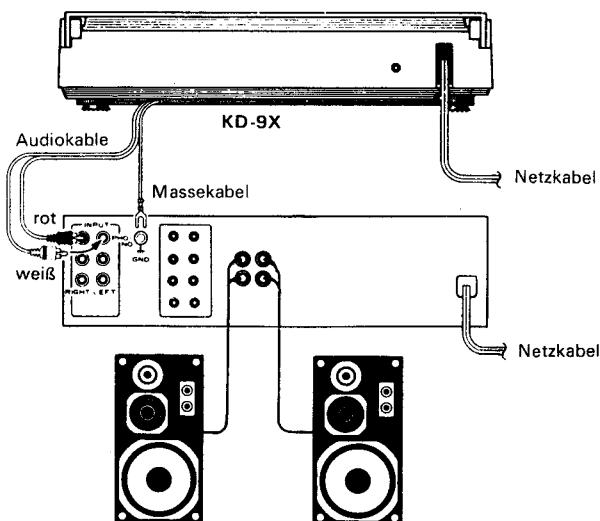
REGLAGES

N°	ITEM	REGLAGE DE L'ENTREE	REGLAGE DE LA SORTIE	REGLAGE DE TOURNE-DISQUE	POINTS L'ALIGNEMENT	ALIGNER POUR	FIG.
1	DECLALAGE (1)	—	Débrancher PHA 1 et connecter un voltmètre CC à la fiche 8 de IC3 (PHA3- ③)	Enlever le bras de lecture de son support et le baisser.	VR3	—0.80V	(a)
2	DECALAGE (2)	—	Connecter un voltmètre CC à la fiche 14 de IC2 (PHA3- ①)	Lever et baisser le bras de lecture plusieurs fois, ensuite, le laisser dans la position relevé.	Vis de réglage sous le bras de lecture	—650 mV	(b)
3	DISTANCE ENTRE LA POINTE DE LECTURE ET LA SURFACE DU DISQUE.	Disque	Connecter PHA1	SIZE: 17 cm Bras de lecture: UP Marche	Vis de réglage à l'arrière du bras de lecture	5 mm	(c)
4	SENSIBILITE DU DETECTEUR DE SELECTION (1)	Disque d'essai (T99-0216-05)	Connecter un voltmètre CC à la fiche 10 de IC2 (PHA3- ①)	Lever le bras de lecture et le déplacer vers le centre de la bande audio en utilisant les boutons FORWARD et REVERSE	VR1 VR2	Tourner VR2 à fond vers la droite. Régler VR1 de manière à ce que le voltmètre indique 100 mV	(d)
5	SENSIBILITE DU DETECTEUR DE SELECTION (1)	Disque d'essai (T99-0216-05)	Connecter un voltmètre CC à la fiche 10 de IC2 (PHA3- ①)	Lever le bras de lecture et le déplacer vers le centre de la Bande non-enregistrée en utilisant les boutons FORWARD et REVERSE	VR2	150 mV	(e)
6	PRECISION DU DETECTEUR DE SELECTION	Disque d'essai (T99-0216-05)	(A)	Spécifier un numéro de sélection avec la touche PLAY/CUT.	VR4	Tourner VR4 à fond vers la gauche, ensuite le tourner doucement vers la droite de manière à ce que le bras de lecture descende sur le sillon d'antique précédant la sélection.	
7	MARCHE	Disque d'essai (W05-0036-00)	(A)	Spécifier numéro de sélection 1 avec la touche PLAY/CUT.	Vis de réglage d'assemblage du bras de lecture.	24~28	(f)
8	DETECTEUR DE SELECTION	Disque d'essai (T99-0216-05)	Connecter l'oscilloscope à la fiche 10 de IC2 (PHA3- ①)	Spécifier un numéro de sélection avec la touche PLAY/CUT.	VR5	400~500 ms	(g)

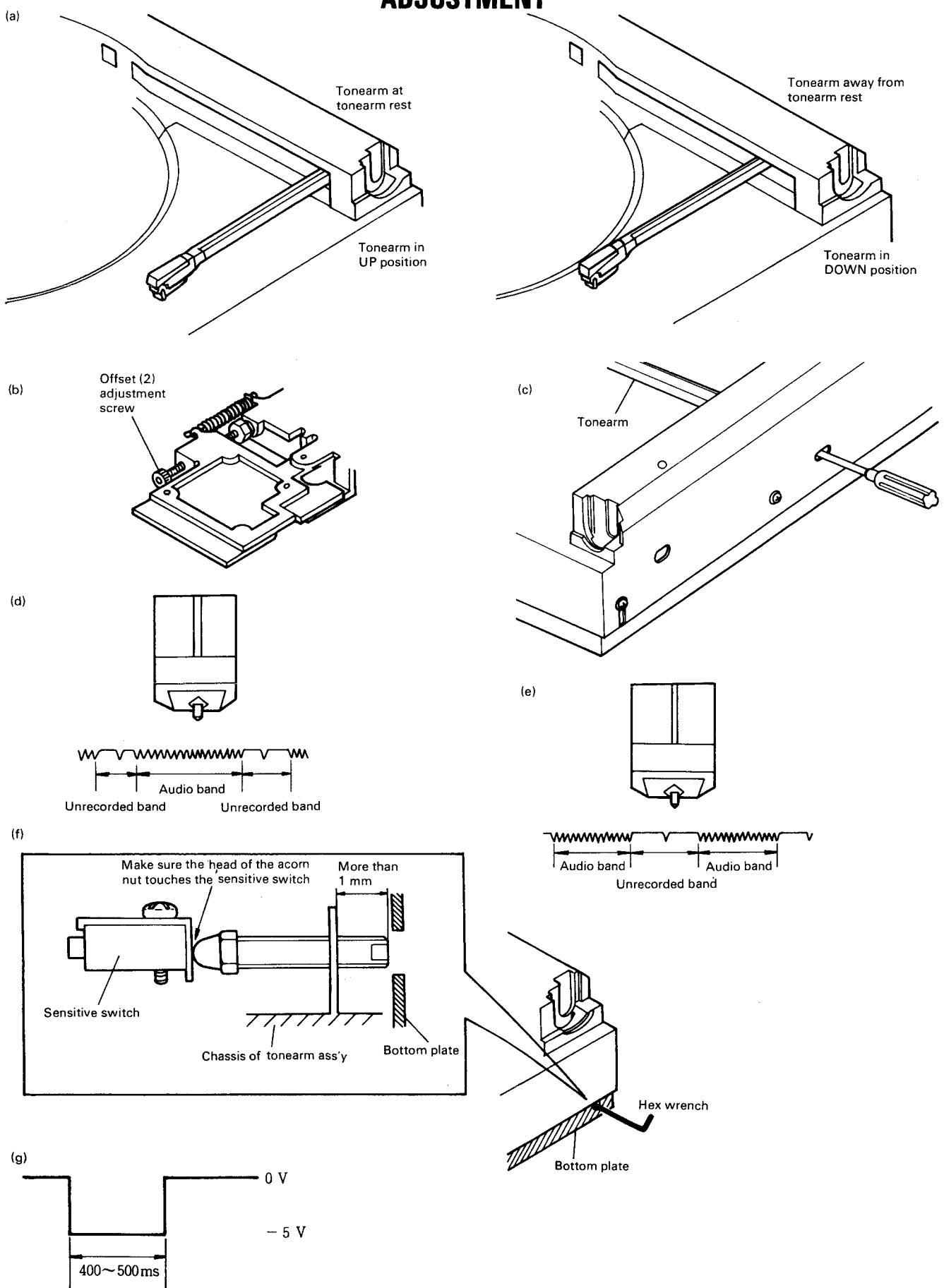


ABGLEICH

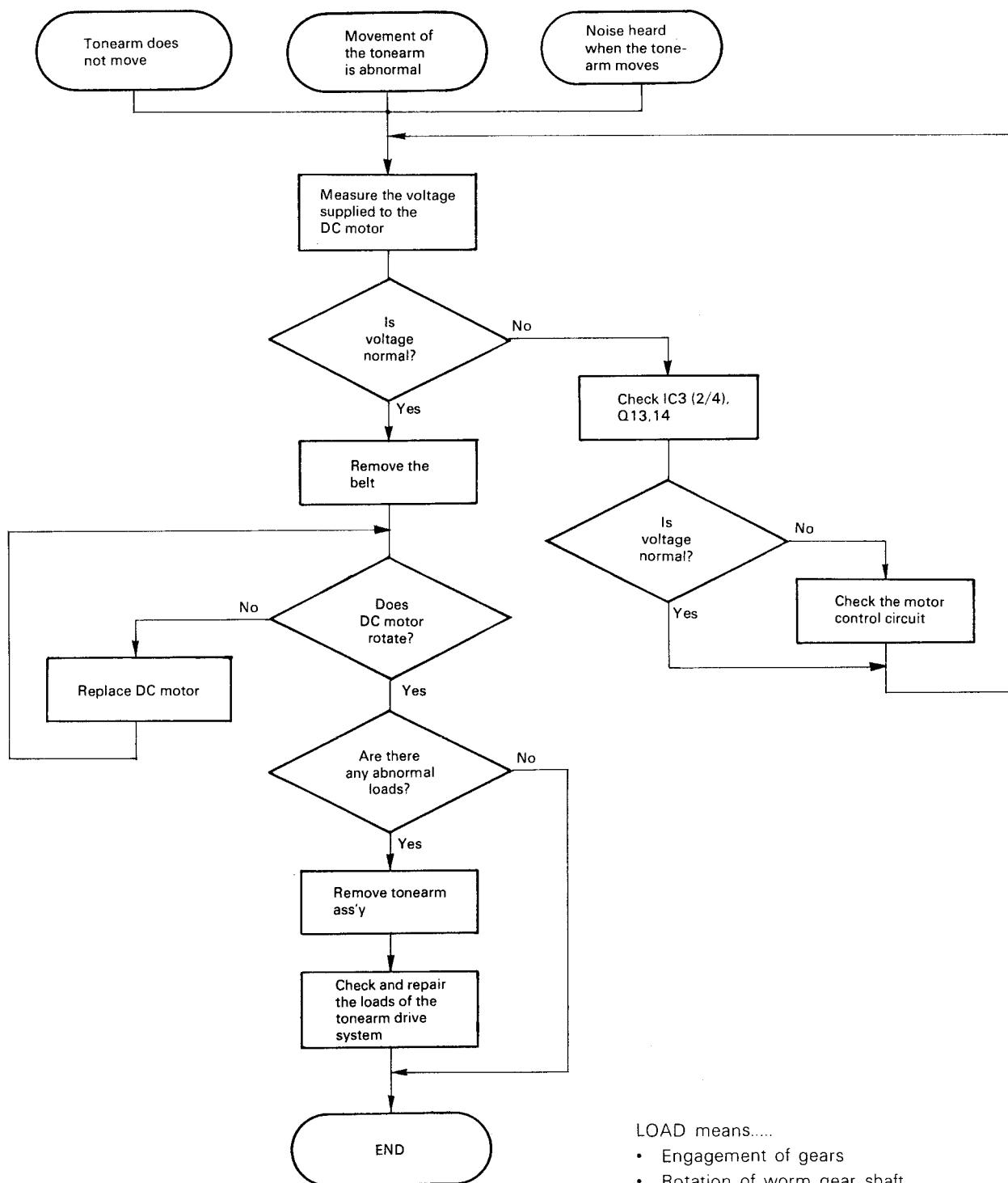
NR.	GEGENSTAND	EINGANGS-EINSTELLUNG	AUSGANGS-EINSTELLUNG	PLATTEN SPIELER EINSTELLUNG	ABGLEICH- PUNKTE	ABGLEICHEN FÜR	ABB.
1	VERSCHIEBUNG (1)	—	Trenne PHA 1 und einen gleichspannungs messer 3um Stift 8 von IC3 (PHA3- ③) ausschließenx	Nehme den Tonarm aus seiner Halterung und senke ihn.	VR3	— 0.80V	(a)
2	VERSCHIEBUNG (2)	—	Einen Gleichspannungs messer zum Stift 10 von IC2 (PHA3 ①) anschließen.	Hebe und senke den Tonarm einigemale, lasse ihn dann auf oben Stellung	Einstellschraube ist unter dem Tonarm.	— 650mV	(b)
3	ABSTAND ZWISCHEN NADEL UND PLATTEN OBERFLÄCHE.	Platte	PHA1 anschließen	SIZE: 17 cm Tonarm UP autom. Aufsetzen	Einstellschraube ist an der hinterseite des Tonarms.	5 mm	(c)
4	EMPFINDLICHKEIT DES AUSWAHL-FÜHLERS (1)	Probe eine Platte (T99-0216-05)	Einen Gleichspannungs messer zum Stift 10 von IC2 (PHA3- ①) anschließen.	Hebe den Tonarm und führe ihn zum Mittelpunkt des Audiobandes durch den gebrauch der FORWARD und REVERSE Taste.	VR1 VR2	Drehe VR2 ganz nach rechts. Reguliere VR1 so das der Spannungsmesser 100 mV	(d)
5	EMPFINDLICHKEIT DES AUSWAHL FÜHLERS (2)	Probe eine Platte (T99-0216-05)	Einen Gleichspannungs messer zum Stift 10 von IC2 (PHA3- ①) anschließen.	Hebe den Tonarm und führe ihn zum Mittelpunkt des Audiobandes durch den gebrauch der FORWARD und REVERSE Taste.	VR2	150 mV	(e)
6	GENAUIGKEIT DES AUSWAHLFÜHLERS	Probe eine Platte (T99-0216-05)	(A)	Gebe eine Auswahlnummer mit dem PLAY/ CUT Schalter an.	VR4	Drehe VR4 ganz nach links, drehe es dann allmählich nach rechts, so das der Tonarm auf die vorher ausgewählte Führungsspur sinkt.	
7	AUTOM AUFSETZEN	Probe eine Platte (W05-0036-00)	(A)	Gebe Auswahlnummer 1 mit dem PLAY/CUT Schalter an	Einstellschraube ist an des Tonarmzusammenbaues.	24~28	(f)
8	AUSWAHLFÜHLER	Probe eine Platte (T99-0216-05)	Einen Oszilloskop zum Stift 10 von IC2 (PHA3- ①) anschließen.	Gebe eine Auswahlnummer mit dem PLAY/ CUT Schalter an.	VR5	400~500 ms	(g)



ADJUSTMENT

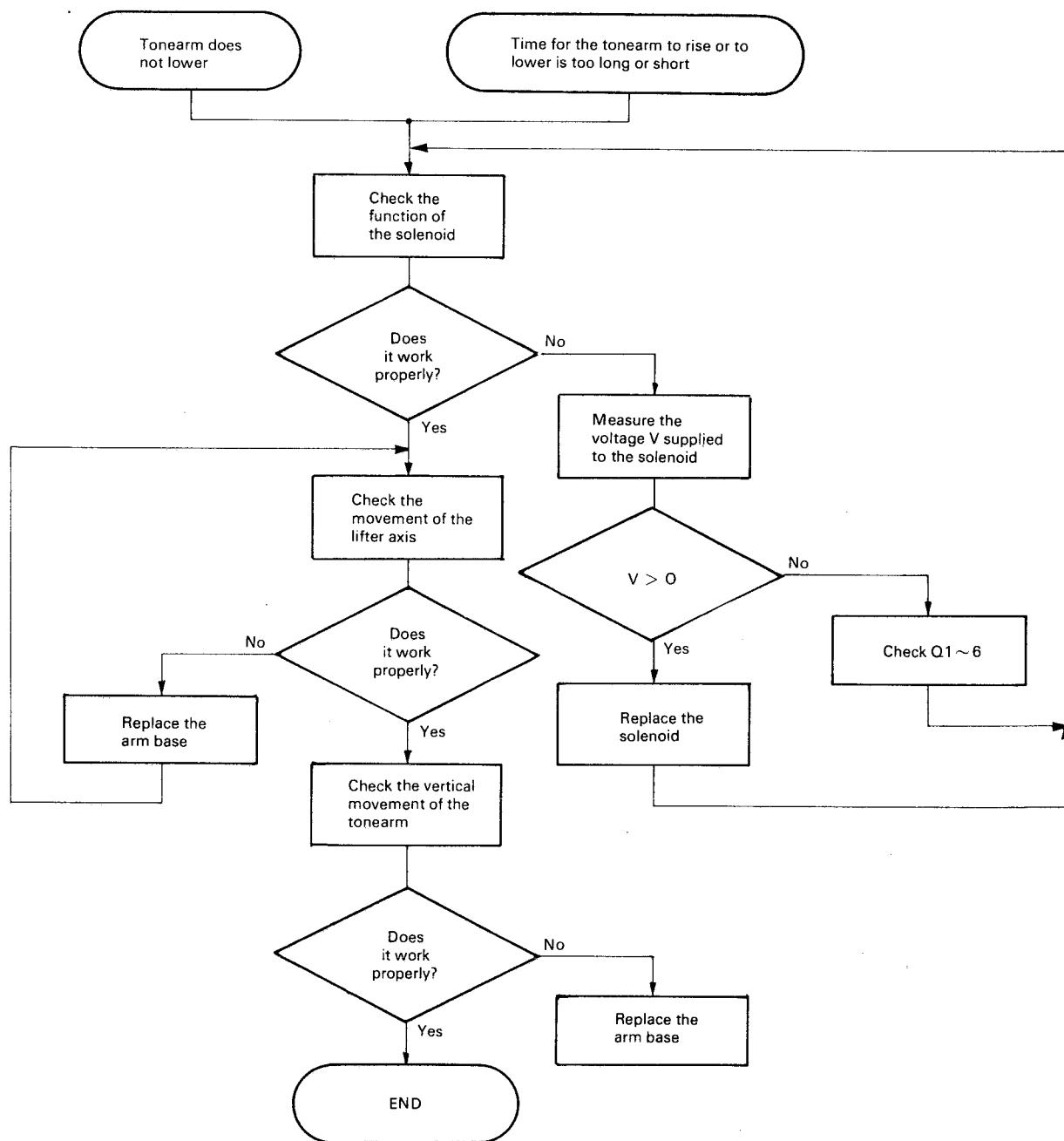


TROUBLESHOOTING

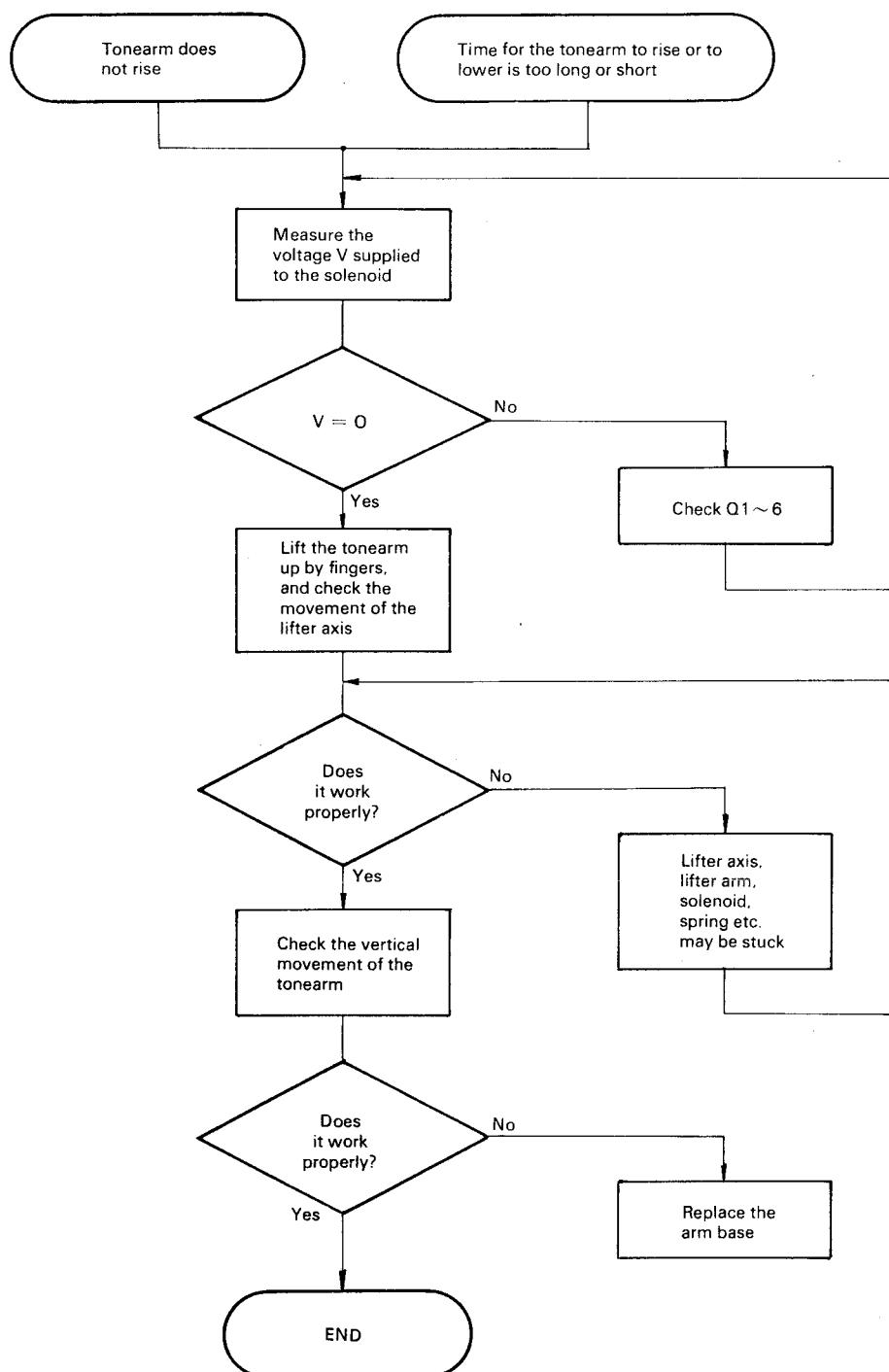


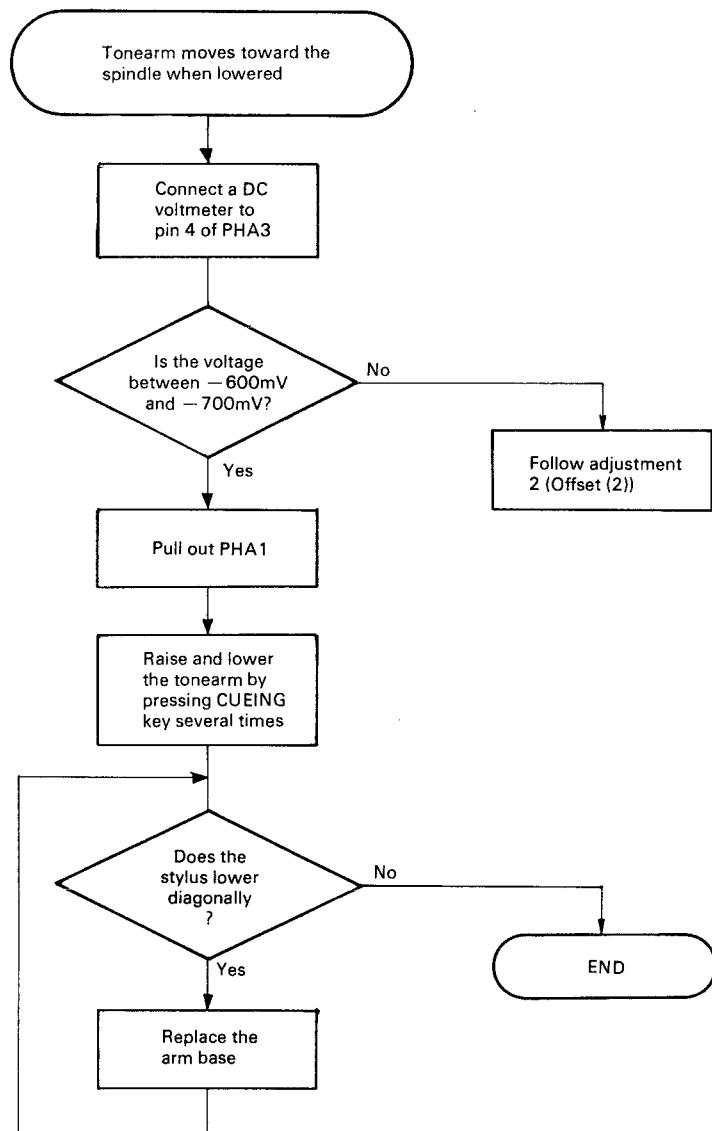
LOAD means.....

- Engagement of gears
- Rotation of worm gear shaft
- Rotation of the pulley
- Stuck cord
- Movement of arm base
- Space between the photo interruptor plate etc.

TROUBLESHOOTING

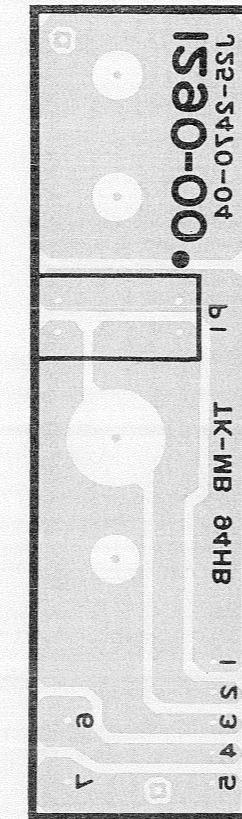
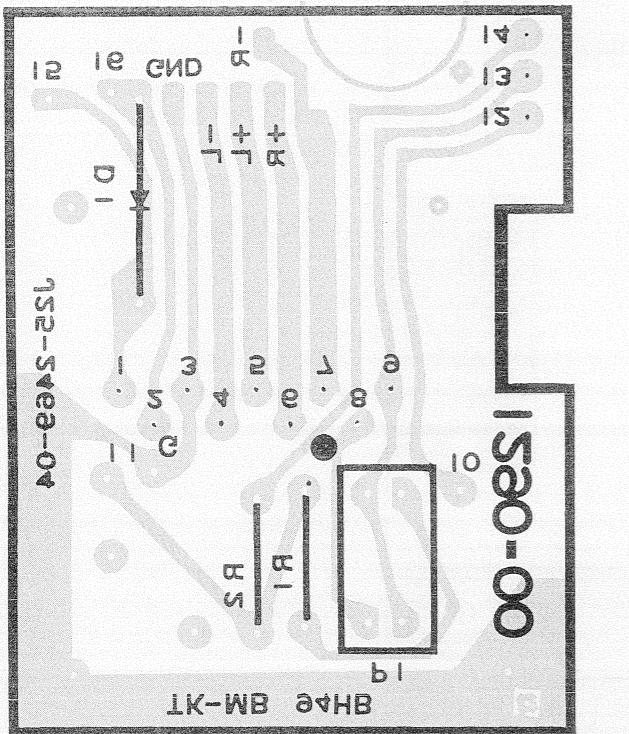
TROUBLESHOOTING



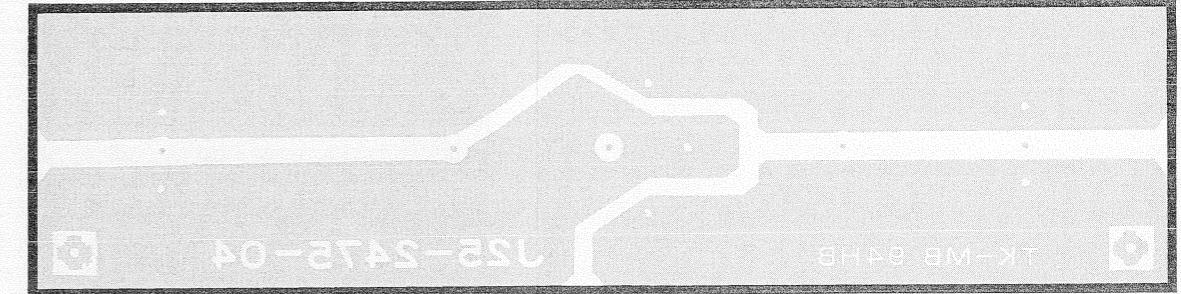
TROUBLESHOOTING

PC BOARD

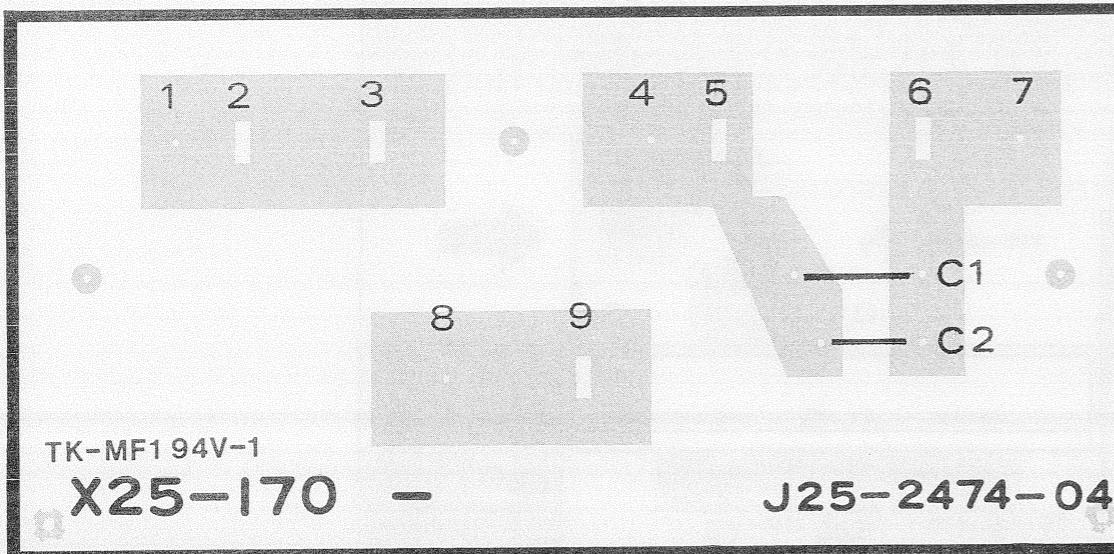
PC BOARD OF TONEARM ASS'Y Foil Side View



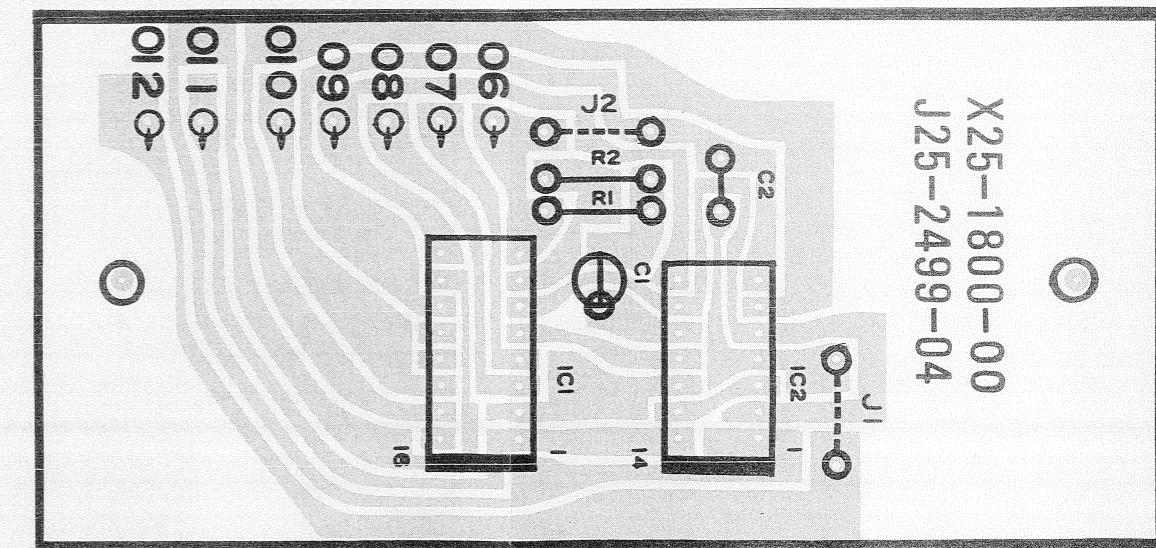
SUB (X25-1710-00) Component Side View



CONNECTING (X25-1700-11) Component Side View



SUB (X25-1800-00) Component Side View



In this model, there are separated pc boards which were originally one. These separated pc boards can't be supplied independently.

Ex.	Part No. of pc board	Separated portion No.
	X09-1230-00	(A/3)
	X09-1230-00	(B/3)
	X09-1230-00	(C/3)

In the example shown above, separated portion can't be ordered independently. In case only A/3 was ordered, pc board ass'y of X09-1230-00, which all A/3, B/3, C/3 included, will be shipped.

Refer to the schematic diagram for the values of capacitors and resistors. The PC board drawing is viewed from the side easy to check.

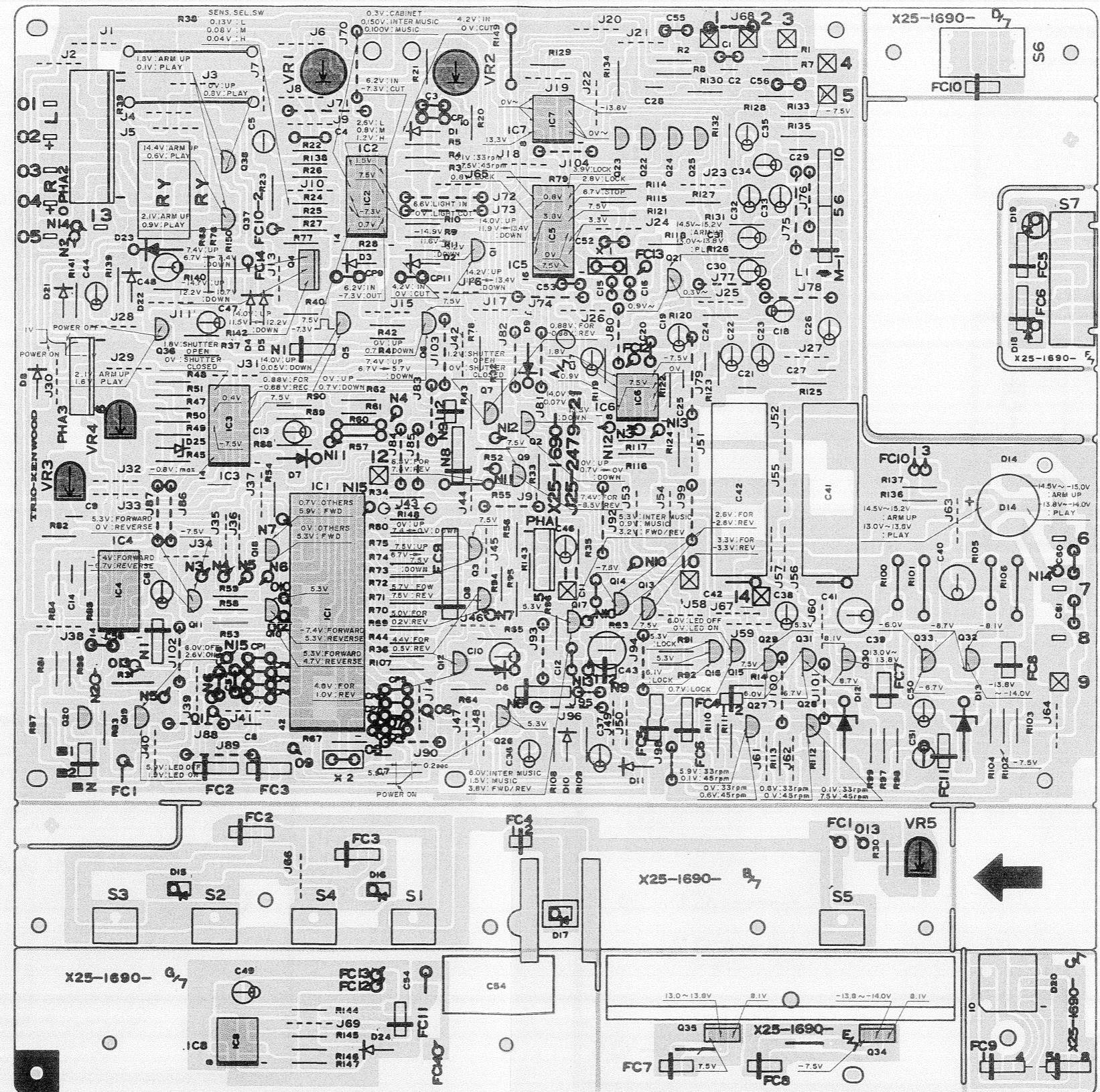
Ex.	Part No. of pc board	Separated portion No.
	X09-1230-00	(A/3)
	X09-1230-00	(B/3)
	X09-1230-00	(C/3)

In the example shown above, separated portion can't be ordered independently. In case only A/3 was ordered, pc board ass'y of X09-1230-00, which all A/3, B/3, C/3 included, will be shipped.

Refer to the schematic diagram for the values of capacitors and resistors. The PC board drawing is viewed from the side easy to check.

CONTROL (X25-1690-11)

Component Side View



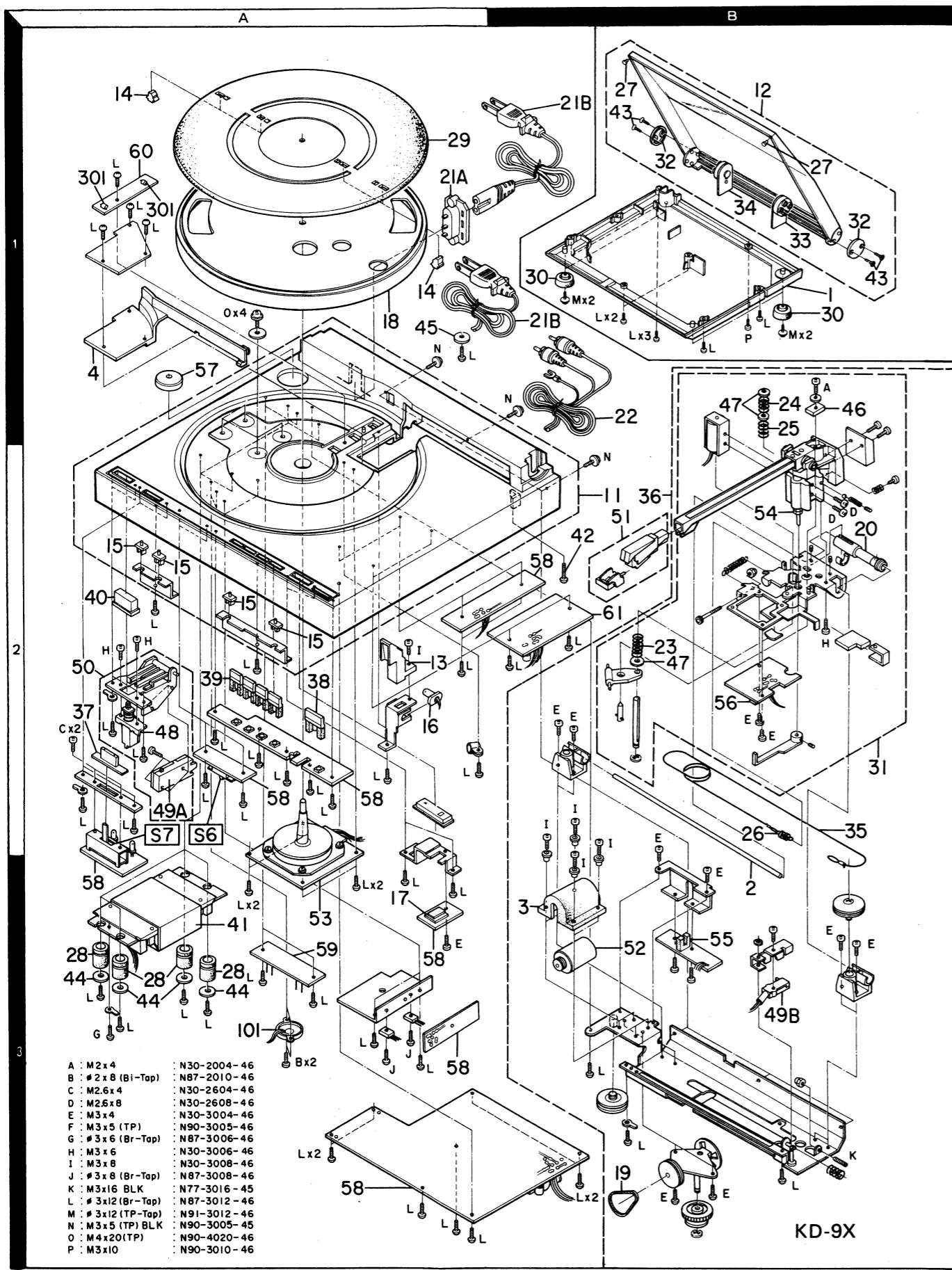
In this model, there are separated pc boards which were originally one. These separated pc boards can't be supplied independently.

Ex.	Part No. of pc board	Separated portion No.
X09-1230-00		(A/3)
X09-1230-00		(B/3)
X09-1230-00		(C/3)

In the example shown above, separated portion can't be ordered independently. In case only A/3 was ordered, pc board ass'y of X09-1230-00, which all A/3, B/3, C/3 included, will be shipped.

Refer to the schematic diagram for the values of capacitors and resistors. The PC board drawing is viewed from the side easy to check.

EXPLODED VIEW



* New Parts

Parts without Parts No. are not supplied.
 Les articles non mentionnés dans le Parts No. ne sont pas fournis.
 Teile ohne Parts No. werden nicht geliefert.

PARTS LIST

Ref. No.	Parts No.	Description	Re-marks
KD-9X UNIT			
1 1B	NO STOCK	BOTTOM PLATE	
2 3B	NO STOCK	RAIL	
3 3B	NO STOCK	COVER(DC MOTOR)	
4 1A	NO STOCK	COVER(TONEARM WINDOW)	
11 2B	A02-0384-12	PLASTIC CABINET ASSY	*K
11 2B	A02-0385-12	PLASTIC CABINET ASSY	*T
11 2B	A02-0386-12	PLASTIC CABINET ASSY	*P
11 2B	A02-0386-12	PLASTIC CABINET ASSY	UM
11 2B	A02-0386-12	PLASTIC CABINET ASSY	HX
11 2B	A02-0386-12	PLASTIC CABINET ASSY	ET
12 1B	A53-0255-12	TURNTABLE COVER ASSY	*
-	B46-0055-30	WARRANTY CARD	P
-	B46-0060-00	WARRANTY CARD	T
-	B46-0061-30	WARRANTY CARD	K
-	B46-0062-30	WARRANTY CARD	UH
-	B46-0063-13	WARRANTY CARD	UH
-	B46-0064-20	WARRANTY CARD	X
-	B46-0078-03	WARRANTY CARD	E
-	B50-4260-00	INSTRUCTION MANUAL	*K
-	B50-4260-00	INSTRUCTION MANUAL	UH
-	B50-4261-00	INSTRUCTION MANUAL	*P
-	B50-4261-00	INSTRUCTION MANUAL	MX
-	B50-4262-00	INSTRUCTION MANUAL	*T
-	B50-4263-00	INSTRUCTION MANUAL	*M
-	B50-4270-00	INSTRUCTION MANUAL	*E
-	B59-0018-00	SERVICE STATIONS LIST	
13 2A	B19-0511-08	LENS(AUTO-SIZE SELECTOR)	*
14 1A	B19-0512-04	LENS(TURNTABLE SHEET)	*
15 2A	B19-0513-04	LENS(45,33,CUE,REPEAT)	*
16 2A	B30-0757-08	LAMP(AUTO-SIZE SELECTOR)	*
17 3A	B38-0226-05	DISPLAY ASSY(7-SEGMENT)	*
18 1A	D02-0044-05	TURNTABLE PLATTER	*
19 3B	D16-0252-04	BELT	
20 2B	D23-0546-08	RETAINER	
-	E23-0015-04	EARTH LUG	
21A 1A	E03-0105-05	3P INLET	UM
21A 1A	E03-0105-05	3P INLET	HX
21A 1A	E03-0105-05	3P INLET	ET
21B 1B	E30-1305-15	POWER CORD	UM
21B 1B	E30-1305-15	POWER CORD	H
21B 1B	E30-1328-15	POWER CORD	T
21B 1B	E30-1329-05	POWER CORD	E
21B 1B	E30-1342-05	POWER CORD	X
21B 1B	E30-1350-05	POWER CORD	KP
22 1B	E30-1351-25	AUDIO CORD	PU
22 1B	E30-1351-25	AUDIO CORD	MH
22 1B	E30-1351-25	AUDIO CORD	ET
22 1B	E30-1351-25	AUDIO CORD	X
22 1B	E30-1352-25	AUDIO CORD	K
23 2B	G01-1171-08	COIL SPRING	
24 1B	G01-1172-08	COIL SPRING	
25 1B	G01-1173-08	COIL SPRING	
26 2B	G01-1174-08	COIL SPRING(FCR CORD)	
27 1B	G13-0405-04	CUSHION(TURNTABLE COVER)	
28 3A	G13-0483-04	CUSHION(POWER TRANS.)	*
29 1A	G16-0348-02	SHEET(TURNTABLE)	*P
29 1A	G16-0348-02	SHEET(TURNTABLE)	UM
29 1A	G16-0348-02	SHEET(TURNTABLE)	HX
29 1A	G16-0348-02	SHEET(TURNTABLE)	ET

E: Scandinavia & Europe H: Audio Club K: USA P: Canada
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K: KD-9XG

Ref. No.	Parts No.	Description	Re-marks
KD-9X UNIT			
29 1A	G16-0354-02	SHEET(TURNTABLE)	*K
-	H01-4320-04	CARTON BOX	*K
-	H01-4321-04	CARTON BOX	*P
-	H01-4321-04	CARTON BOX	UM
-	H01-4321-04	CARTON BOX	HX
-	H01-4321-04	CARTON BOX	E
-	H01-4322-04	CARTON BOX	T
-	H10-2313-02	POLYSTYRENE FIXTURE	*
-	H10-2314-02	POLYSTYRENE FIXTURE	*
-	H10-2315-02	POLYSTYRENE FIXTURE	*
-	H20-1110-04	COVER	KP
-	H20-1110-04	COVER	UH
-	H20-1110-04	COVER	XE
-	H25-0078-04	BAG	T
-	H25-0148-04	BAG	*
-	H25-0159-04	BAG	M
-	J02-0342-04	FOOT	M
-	J19-2085-08	HOLDER	*
-	J50-0324-05	HINGE(COVER)	*
-	J50-0326-05	HINGE(R)	*
-	J50-0327-05	HINGE(L)	*
-	J60-0202-08	CORD(LOOSED ENDS)	
-	J91-0166-05	TONEARM ASSY	
-	K27-0348-04	KNOB(SPEED SELECTOR)	*
-	K29-0976-14	KNOB(PROGRAM-PLAY/CUT)	*
-	K29-0977-14	KNOB(FOR/CUE,REV,REPEAT)	*
-	K29-0978-04	KNOB(POWER)	*
-	L01-2931-05	POWER TRANSFORMER	P
-	L01-6541-05	POWER TRANSFORMER	K
-	L01-6544-05	POWER TRANSFORMER	UM
-	L01-6544-05	POWER TRANSFORMER	HX
-	N09-0253-04	SCREW(WINDOW COVER)	ET
-	N09-0983-05	SCREW(TURNTABLE COVER)	
-	N19-0563-14	WASHER(POWER TRANS)	
-	N19-0802-04	WASHER(POWER CORD)	
-	N19-0821-08	WASHER(TONEARM)	
-	N19-0837-08	WASHER(TONEARM)	
-	S40-2322-05	PUSH LOCK STRUCTURE	*
-	S49-2003-05	SENSITIVE SWITCH(POWER)	*
-	S50-1316-05	SENSITIVE SWITCH	KP
-	S59-1307-03	SWITCH ASSY	PU
-	S59-1307-03	SWITCH ASSY	
-	T99-0216-05	TEST RECORD	
-	T21-0083-05	MAGNETIC CARTRIDGE	
-	T42-0125-05	DC MOTOR(TONEARM DRIVE)	
-	T43-0024-05	MOTOR(TURNTABLE)	
-	T94-0072-08	MAGNETIC PLUNGER	
-	T95-0010-05	PHOTO INTERRUPTER(PG)	
-	T95-0011-05	PHOTO INTERRUPTER(T.E.S.)	
-	W01-0329-04	EP ADAPTER	
-	X25-1690-00	CONTROL PCB ASSY	*U
-	X25-1690-00	CONTROL PCB ASSY	MH
-	X25-1690-00	CONTROL PCB ASSY	XE

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Les articles non mentionnés dans le Parts No. ne sont pas fournis.

Teile ohne Parts No. werden nicht geliefert.

PARTS LIST

Ref. No.	Parts No.	Description	Re-marks	Ref. No.	Parts No.	Description	Re-marks
参照番号	部品番号	部品名 / 規格	備考	参照番号	部品番号	部品名 / 規格	備考
58 2A,3A	X25-1690-00	CONTROL PCB ASSY	T	x1	L77-1102-05	XTAL RESONATOR(11.0592M)	
58 2A,3A	X25-1690-11	CONTROL PCB ASSY	*K	x2	L78-0202-05	RESONATOR (400KHZ)	
58 2A,3A	X25-1690-11	CONTROL PCB ASSY	P	CP1 -8	R90-0409-05	MULTIPLE COMPONENTS	
59 3A	X25-1700-11	CONNECTING PCB ASSY	*K	CP9 -11	R90-0410-05	MULTIPLE COMPONENTS	
59 3A	X25-1700-11	CONNECTING PCB ASSY	P	R38 39	P92-0527-05	FL-PROOF RS220 J 3F	
59 3A	X25-1700-81	CONNECTING PCB ASSY	*U	R78	R42-1210-25	FL-PROOF RD1K J 2E	
59 3A	X25-1700-81	CONNECTING PCB ASSY	M	R100	R42-1239-05	FL-PROOF RD39 J 2E	
59 3A	X25-1702-71	CONNECTING PCB ASSY	*E	R101	F42-1382-05	FL-PROOF RD82 J 2H	
59 3A	X25-1702-71	CONNECTING PCB ASSY	T	R105	R42-1239-05	FL-PROOF RD39 J 2E	
60 1A	X25-1710-00	SUB PCB ASSY	*	R106	R42-1382-05	FL-PROOF RD82 J 2H	
61 2B	X25-1800-00	SUB PCB ASSY	*	R149	R42-1210-95	FL-PROOF RD1 J 2E	
CONTROL (X25-1690-11)							
D15 16	B30-0752-05	LAMP (PR5534S-1)	*	R151 152	R92-0514-05	FUSE-RESIST4,7	2E
017	B30-0760-05	LAMP (PR3531K)		VR1 2	R12-8502-05	TRIMMING POT. 1M	
018	B30-0752-05	LAMP (PR5534S-1)	*	VR3	R12-0306-05	TRIMMING POT. 100	
019	B30-0352-05	LAMP (SR603D(R,S))	*	VR4	R12-3312-05	TRIMMING POT. 10K	
020	B38-0228-05	DISPLAY ASSY(SL-1181T)	*	VR5	R12-8010-05	TRIMMING POT. 1M	
C1	C45-1710-35	MYLAR 0.01UF J		-	S51-2408-05	RELAY	
C2	C45-1710-35	MYLAR 0.01UF J		S6	S31-2315-05	SLIDE SWITCH(SENSOR SEL)	
C3	C71-1747-15	CERAMIC 470PF J		S7	S31-2313-05	SLIDE SWITCH(SPEED SEL)	
C4	C45-1712-45	MYLAR 0.12UF J		101 3A	T95-0007-05	PIEZOELECTRO BUZZER	*
C5	C26-1433-57	NP-ELEC 3.3UF 25WV		D1 11	V11-1200-80	1SS53	
C6	C25-1710-57	LL-ELEC 1UF 50WV		D1 11	V11-6101-80	DS448	
C7 8	C71-1722-15	CERAMIC 220PF J		D1 11	V11-7700-30	1S2473	
C9	C71-1747-15	CERAMIC 470PF J		D12 13	V11-7102-60	EQ801-06P	*
C10	C25-1410-67	LL-ELEC 10UF 25WV		D14	V11-2400-20	W02	*
C11	C91-0121-05	CERAMIC 0.1UF M		D21 22	V11-6101-80	DS448	
C12	C45-1722-35	MYLAR 0.022UF J		D21 22	V11-7700-30	1S2473	
C13	C25-1710-57	LL-ELEC 1UF 50WV		D23	V11-9729-05	1N4003	
C14	C45-1747-35	MYLAR 0.047UF J		D24	V11-6101-80	DS448	
C15 16	C71-1722-05	CERAMIC 22PF J		D25	V11-4102-10	WZ-050	
C17	C24-1747-47	ELECTRO 0.47UF 50WV		IC1	V30-0744-10	LM6405-042	*
C18	C24-1210-67	ELECTRO 10UF 16WV		IC2 3	V30-0597-10	MB3614M	
C19	C24-1710-57	ELECTRO 1UF 50WV		IC4	V30-0303-10	CD4001BE	
C20	C91-0121-05	CERAMIC 0.1UF M		IC4	V30-0378-10	MC14001BCP	
C21	C45-1715-25	MYLAR 0.0015UF J		IC4	V30-0580-10	UPD4001BC	
C22 23	C24-1047-67	ELECTRO 47UF 10WV		IC5	V30-0596-10	TC9142P	
C24 25	C52-1710-26	CERAMIC 0.001UF K		IC6	V30-0349-10	UPC4558C	
C26	C24-1710-57	ELECTRO 1UF 50WV		IC6	V30-0426-10	RC4558P	
C27	C71-1710-15	CERAMIC 100PF J		IC6	V30-0704-10	RC4558P-D	
C28 29	C45-1710-25	MYLAR 0.001UF J		IC7	V30-0704-10	RC4558P-D	
C30 31	C24-1233-67	ELECTRO 33UF 16WV		IC8	V30-0349-10	UPC4558C	
C32 37	C24-6547-57	ELECTRO 4.7UF 35WV		IC8	V30-0426-10	RC4558P	
C38	C24-1710-57	ELECTRO 1UF 50WV		IC8	V30-0704-10	RC4558P-D	
C39 40	C24-1447-67	ELECTRO 47UF 25WV		Q1	V02-0764-10	2S8764(E,F)	
C41 42	C24-1422-87	ELECTRO 2200UF 25WV		Q2	V03-0945-80	2SC945(A)(Q,P)	
C43	C26-1033-67	NP-ELEC 33UF 10WV		Q2	V03-1685-20	2SC1685(R,S)	
C44	C24-1722-57	ELECTRO 2.2UF 50WV		Q3	V01-0564-30	2SA564A(Q,R)	*
C46	C24-1710-57	ELECTRO 1UF 50WV		Q3	V01-0733-40	2SA733(A)(Q,P)	
C47	C24-1022-67	ELECTRO 22UF 10WV		Q4	V01-0885-10	2SA885(Q,R,S)	
C48	C24-1410-67	ELECTRO 10UF 25WV		Q5	V03-0945-80	2SC945(A)(Q,P)	
C49 50	C24-1210-67	ELECTRO 1UF 16WV		Q5	V03-1685-20	2SC1685(R,S)	
C51	C24-1210-67	ELECTRO 10UF 16WV		Q6 7	V01-0564-30	2SA564A(Q,R)	*
C52 53	C91-0121-05	CERAMIC 0.1UF M		Q6 7	V01-0733-40	2SA733(A)(Q,P)	*
C54	C24-1210-87	ELECTRO 1000UF 16WV		Q8	V03-0945-80	2SC945(A)(Q,P)	
C55 56	C55-1722-38	CERAMIC 0.022UF Z		Q8	V03-1685-20	2SC1685(R,S)	
C57 61	C91-0121-05	CERAMIC 0.1UF M		Q9 10	V01-0564-30	2SA564A(Q,R)	*
-	E40-0573-05	PIN CONNECTOR(5 PIN)		Q9 10	V01-0733-40	2SA733(A)(Q,P)	*
-	E40-0673-05	PIN CONNECTOR(6 PIN)		Q11 12	V03-0945-80	2SC945(A)(Q,P)	
-	E40-1178-05	PIN CONNECTOR(11 PIN)		Q11 12	V03-1685-20	2SC1685(R,S)	
L1	L40-1811-03	INDUCTCR		Q13	V03-1383-10	2SC1383NC(Q,R)	

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PARTS LIST /PACKING

Ref. No.	Parts No.	Description	Re-marks
参照番号	部品番号	部品名 / 規格	備考
Q13	V04-0468-10	2SD468(B,C)	
Q13	V04-0863-10	2SD863(E,F)	
Q14	V01-0683-10	2SA683NC(Q,R)	
Q14	V02-0562-00	2SB562	
Q14	V02-0764-10	2SB764(E,F)	
Q15 -17	V03-0945-80	2SC945(A)(Q,P)	*
Q15 -17	V03-1685-20	2SC1685(R,S)	*
Q18 -20	V01-0564-30	2SA564A(Q,R)	*
Q18 -20	V01-0733-40	2SA733(A)(Q,P)	*
Q21	V03-0945-80	2SC945(A)(Q,P)	
Q21	V03-1685-20	2SC1685(R,S)	
Q22	V03-1383-10	2SC1383NC(Q,R)	
Q22	V04-0468-10	2SD468(B,C)	
Q22	V04-0863-10	2SD863(E,F)	
Q23	V01-0683-10	2SA683NC(Q,R)	*
Q23	V02-0562-00	2SB562	
Q23	V02-0764-10	2SB764(E,F)	
Q24	V03-1383-10	2SC1383NC(Q,R)	
Q24	V04-0468-10	2SD468(B,C)	
Q24	V04-0863-10	2SD863(E,F)	
Q25	V01-0683-10	2SA683NC(Q,R)	*
Q25	V02-0562-00	2SB562	
Q25	V02-0764-10	2SB764(E,F)	
Q26 -28	V03-0945-80	2SC945(A)(Q,P)	
Q26 -28	V03-1685-20	2SC1685(R,S)	
Q29	V03-1383-10	2SC1383NC(Q,R)	
Q29	V04-0468-10	2SD468(B,C)	
Q29	V04-0863-10	2SD863(E,F)	
Q30	V03-0945-80	2SC945(A)(Q,P)	
Q30	V03-1685-20	2SC1685(R,S)	
Q31	V03-1383-10	2SC1383NC(Q,R)	
Q31	V04-0468-10	2SD468(B,C)	
Q31	V04-0863-10	2SD863(E,F)	
Q32	V01-0564-30	2SA564A(Q,R)	*
Q32	V01-0733-40	2SA733(A)(Q,P)	*
Q33	V01-0683-10	2SA683NC(Q,R)	*
Q33	V02-0562-00	2SB562	
Q33	V02-0764-10	2SB764(E,F)	
Q34	V01-0885-10	2SA885(Q,R,S)	
Q35	V03-1846-20	2SC1846(Q,R,S)	
Q36 -38	V03-0945-80	2SC945(A)(Q,P)	
Q36 -38	V03-1685-20	2SC1685(R,S)	

CONNECTING (X25-1700-11)

C1	C91-0079-05	CERAMIC 0.01UF	AC125V
C2	C91-0023-05	CERAMIC 0.01UF	AC250V

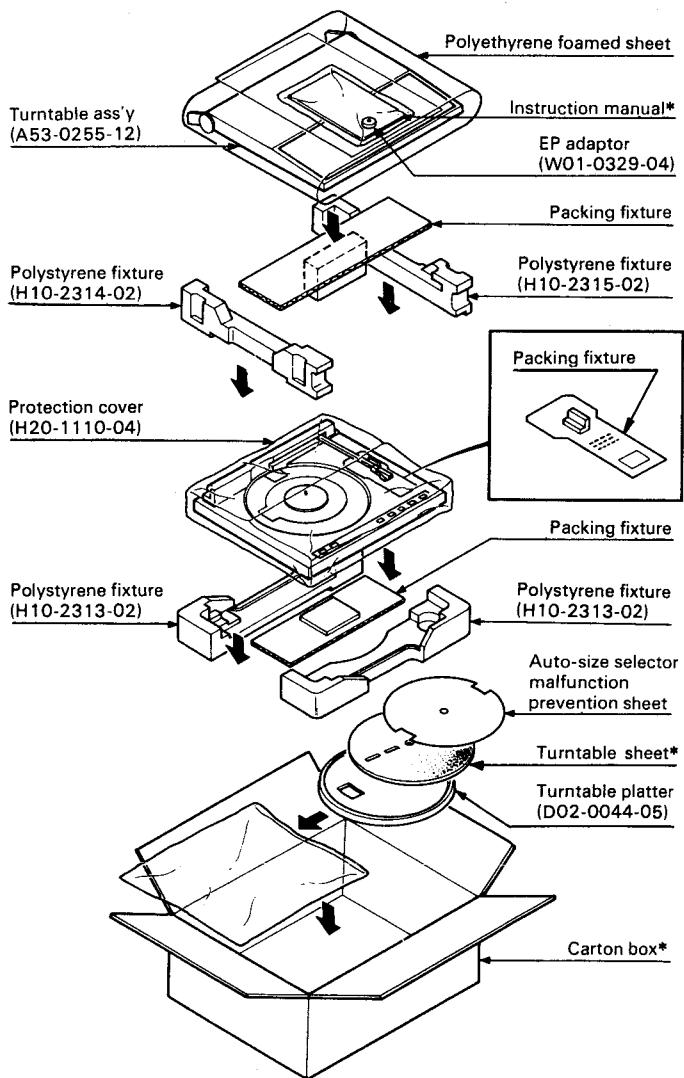
SUB(X25-1710-00)

301 1A	V30-0428-11	TPS605トウク
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SUB (X25-1800-00)

C1	C25-6522-57	LL-ELEC 2.2UF	35WV	
IC1	V30-0711-20	MB84049BM		
IC1	V30-0761-10	UPD4049UBP		
IC1	V30-1009-26	TC4049BP		
IC2	V30-0301-70	TC4011BP		
IC2	V30-0582-10	UPD4011BC		

PACKING



*Refer to parts list on page 18

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